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 PMID: 14660591 [PubMed - in process]
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 PMID: 14614095 [PubMed - indexed for MEDLINE]
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 PMID: 14534328 [PubMed - indexed for MEDLINE]
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 PMID: 12788653 [PubMed - indexed for MEDLINE]
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 PMID: 12707415 [PubMed - indexed for MEDLINE]
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 PMID: 12443975 [PubMed - indexed for MEDLINE]
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 PMID: 12413420 [PubMed - indexed for MEDLINE]
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**The neuronal choline transporter CHT1 is regulated by immunosuppressor-sensitive pathways.**  
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 PMID: 12358793 [PubMed - indexed for MEDLINE]
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**Nerve growth factor specifically stimulates translation of eukaryotic elongation factor 1A-1 (eEF1A-1) mRNA by recruitment to polyribosomes in PC12 cells.**  
*J Biol Chem.* 2002 May 24;277(21):18718-27. Epub 2002 Mar 20.  
 PMID: 11907030 [PubMed - indexed for MEDLINE]
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 PMID: 11855825 [PubMed - indexed for MEDLINE]
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**The phosphoinositide 3-kinase and p70 S6 kinase regulate long-term potentiation in hippocampal neurons.**  
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 PMID: 11823064 [PubMed - indexed for MEDLINE]
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**Modulation of type-1 Ins(1,4,5)P<sub>3</sub> receptor channels by the FK506-binding protein, FKBp12.**  
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 PMID: 11772413 [PubMed - indexed for MEDLINE]
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**Phosphorylation and local presynaptic protein synthesis in calcium- and calcineurin-dependent induction of crayfish long-term facilitation.**  
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Am J Hypertens. 2000 Sep;13(9):999-1004.  
PMID: 10981550 [PubMed - indexed for MEDLINE]
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-  Rapamycin and FK506 induce long-term potentiation by pairing stimulation via an intracellular Ca(2+) signaling mechanism in rat hippocampal CA1 neurons.  
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PMID: 10884573 [PubMed - indexed for MEDLINE]
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Neuropharmacology. 2000 Jul 24;39(10):1913-9.  
PMID: 10884572 [PubMed - indexed for MEDLINE]
- 25:** Costantini LC, Isaacson O. [Related Articles](#), [Links](#)
-  Immunophilin ligands and GDNF enhance neurite branching or elongation from developing dopamine neurons in culture.  
Exp Neurol. 2000 Jul;164(1):60-70.  
PMID: 10877916 [PubMed - indexed for MEDLINE]
- 26:** Li ST, Kato K, Mikoshiba K. [Related Articles](#), [Links](#)
-  High Ca(2+)/low Mg(2+) solution induces long-term depression in rat CA1 pyramidal neurons.  
Neurosci Lett. 2000 Apr 7;283(2):141-4.  
PMID: 10739895 [PubMed - indexed for MEDLINE]

- [27: Alexanian AR, Bamburg JR.](#) [Related Articles](#), [Links](#)
- Neuronal survival activity of s100betabeta is enhanced by calcineurin inhibitors and requires activation of NF-kappaB.  
FASEB J. 1999 Sep;13(12):1611-20.  
PMID: 10463953 [PubMed - indexed for MEDLINE]
- [28: Williams EJ, Doherty P.](#) [Related Articles](#), [Links](#)
- Evidence for and against a pivotal role of PI 3-kinase in a neuronal cell survival pathway.  
Mol Cell Neurosci. 1999 Apr;13(4):272-80. Erratum in: Mol Cell Neurosci 2000 Mar;15 (3):330.  
PMID: 10328886 [PubMed - indexed for MEDLINE]
- [29: Minshall C, Arkins S, Dantzer R, Freund GG, Kelley KW.](#) [Related Articles](#), [Links](#)
- Phosphatidylinositol 3'-kinase, but not S6-kinase, is required for insulin-like growth factor-I and IL-4 to maintain expression of Bcl-2 and promote survival of myeloid progenitors.  
J Immunol. 1999 Apr 15;162(8):4542-9.  
PMID: 10201993 [PubMed - indexed for MEDLINE]
- [30: Powers JF, Tischler AS, Cherington V.](#) [Related Articles](#), [Links](#)
- Discordant effects of rapamycin on proliferation and p70S6 kinase phosphorylation in normal and neoplastic rat chromaffin cells.  
Neurosci Lett. 1999 Jan 15;259(3):137-40.  
PMID: 10025577 [PubMed - indexed for MEDLINE]
- [31: Allen MP, Zeng C, Schneider K, Xiong X, Meintzer MK, Bellosta P, Basilico C, Varnum B, Heidenreich KA, Wierman ME.](#) [Related Articles](#), [Links](#)
- Growth arrest-specific gene 6 (Gas6)/adhesion related kinase (Ark) signaling promotes gonadotropin-releasing hormone neuronal survival via extracellular signal-regulated kinase (ERK) and Akt.  
Mol Endocrinol. 1999 Feb;13(2):191-201.  
PMID: 9973250 [PubMed - indexed for MEDLINE]
- [32: Magun R, Gagnon A, Yaraghi Z, Sorisky A.](#) [Related Articles](#), [Links](#)
- Expression and regulation of neuronal apoptosis inhibitory protein during adipocyte differentiation.  
Diabetes. 1998 Dec;47(12):1948-52.  
PMID: 9836529 [PubMed - indexed for MEDLINE]
- [33: Bartlett SE, Reynolds AJ, Hendry IA.](#) [Related Articles](#), [Links](#)
- Retrograde axonal transport of neurotrophins: differences between neuronal populations and implications for motor neuron disease.  
Immunol Cell Biol. 1998 Oct;76(5):419-23. Review.  
PMID: 9797461 [PubMed - indexed for MEDLINE]
- [34: Polakiewicz RD, Schieferl SM, Gingras AC, Sonnenberg N, Comb MJ.](#) [Related Articles](#), [Links](#)
- mu-Opioid receptor activates signaling pathways implicated in cell survival and translational control.  
J Biol Chem. 1998 Sep 4;273(36):23534-41.  
PMID: 9722592 [PubMed - indexed for MEDLINE]
- [35: Ding JM, Buchanan GF, Tischkau SA, Chen D, Kuriashkina L, Faiman LE, Alster JM, McPherson PS, Campbell KP, Gillette MU.](#) [Related Articles](#), [Links](#)
- A neuronal ryanodine receptor mediates light-induced phase delays of the circadian clock.  
Nature. 1998 Jul 23;394(6691):381-4.

PMID: 9690474 [PubMed - indexed for MEDLINE]

- 36: Reynolds AJ, Bartlett SE, Hendry IA. Related Articles, Links  
Signalling events regulating the retrograde axonal transport of 125I-beta nerve growth factor in vivo.  
Brain Res. 1998 Jul 6;798(1-2):67-74.  
PMID: 9666080 [PubMed - indexed for MEDLINE]
- 37: Burnett PE, Blackshaw S, Lai MM, Qureshi IA, Burnett AE, Sabatini DM, Snyder SH. Related Articles, Links  
Neurabin is a synaptic protein linking p70 S6 kinase and the neuronal cytoskeleton.  
Proc Natl Acad Sci U S A. 1998 Jul 7;95(14):8351-6.  
PMID: 9653190 [PubMed - indexed for MEDLINE]
- 38: Yanow SK, Manseau F, Hislop J, Castellucci VF, Sossin WS. Related Articles, Links  
Biochemical pathways by which serotonin regulates translation in the nervous system of Aplysia.  
J Neurochem. 1998 Feb;70(2):572-83.  
PMID: 9453551 [PubMed - indexed for MEDLINE]
- 39: Sabatini DM, Lai MM, Snyder SH. Related Articles, Links  
Neural roles of immunophilins and their ligands.  
Mol Neurobiol. 1997 Oct;15(2):223-39. Review.  
PMID: 9396011 [PubMed - indexed for MEDLINE]
- 40: Mark MD, Storm DR. Related Articles, Links  
Coupling of epidermal growth factor (EGF) with the antiproliferative activity of cAMP induces neuronal differentiation.  
J Biol Chem. 1997 Jul 4;272(27):17238-44.  
PMID: 9202048 [PubMed - indexed for MEDLINE]
- 41: Steiner JP, Connolly MA, Valentine HL, Hamilton GS, Dawson TM, Hester L, Snyder SH. Related Articles, Links  
Neurotrophic actions of nonimmunosuppressive analogues of immunosuppressive drugs FK506, rapamycin and cyclosporin A.  
Nat Med. 1997 Apr;3(4):421-8.  
PMID: 9095176 [PubMed - indexed for MEDLINE]
- 42: Kauffmann-Zeh A, Rodriguez-Viciiana P, Ulrich E, Gilbert C, Coffer P, Downward J, Evan G. Related Articles, Links  
Suppression of c-Myc-induced apoptosis by Ras signalling through PI(3)K and PKB.  
Nature. 1997 Feb 6;385(6616):544-8.  
PMID: 9020362 [PubMed - indexed for MEDLINE]
- 43: Lois AF, Cooper LT, Geng Y, Nobori T, Carson D. Related Articles, Links  
Expression of the p16 and p15 cyclin-dependent kinase inhibitors in lymphocyte activation and neuronal differentiation.  
Cancer Res. 1995 Sep 15;55(18):4010-3.  
PMID: 7664273 [PubMed - indexed for MEDLINE]
- 44: Chang HY, Takei K, Sydor AM, Bom T, Rusnak F, Jay DG. Related Articles, Links  
Asymmetric retraction of growth cone filopodia following focal inactivation of calcineurin.  
Nature. 1995 Aug 24;376(6542):686-90.  
PMID: 7544441 [PubMed - indexed for MEDLINE]
- 45: Victor RG, Thomas GD, Marban E, O'Rourke B. Related Articles, Links

**Presynaptic modulation of cortical synaptic activity by calcineurin.**

Proc Natl Acad Sci U S A. 1995 Jul 3;92(14):6269-73.

PMID: 7541535 [PubMed - indexed for MEDLINE]

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J Cell Sci. 1995 May;108 ( Pt 5):2037-51.

PMID: 7544801 [PubMed - indexed for MEDLINE]

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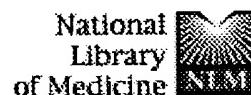


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Harvard University, Cambridge, MA 02138.

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PMID: 14623952 [PubMed - indexed for MEDLINE]

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PMID: 12875979 [PubMed - indexed for MEDLINE]

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Immunophilins in nervous system degeneration and regeneration. Curr Top Med Chem. 2003;3(12):1376-82. Review.  
PMID: 12871169 [PubMed - indexed for MEDLINE]

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Adenosine triphosphate induces proliferation of human neural stem cells: Role of calcium and p70 ribosomal protein S6 kinase. J Neurosci Res. 2003 May 1;72(3):352-62.  
PMID: 12692902 [PubMed - indexed for MEDLINE]

**8:** Avramut M, Achim CL. Related Articles, Links  
Immunophilins and their ligands: insights into survival and growth of human neurons. Physiol Behav. 2002 Dec;77(4-5):463-8. Review.

PMID: 12526984 [PubMed - indexed for MEDLINE]

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PMID: 12139466 [PubMed - indexed for MEDLINE]

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 Cyclic AMP agonists increase levels of insulin-like growth factor (IGF) binding protein-6 in PC12 rat phaeochromocytoma cells.  
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 PMID: 10984315 [PubMed - indexed for MEDLINE]
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- 26:** Parker EM, Monopoli A, Orsini E, Lozza G, Babji CM. [Related Articles](#), [Links](#)  
 Rapamycin, but not FK506 and GPI-1046, increases neurite outgrowth in PC12 cells by inhibiting cell cycle progression.  
*Neuropharmacology.* 2000 Jul 24;39(10):1913-9.  
 PMID: 10884572 [PubMed - indexed for MEDLINE]

- 27: Costantini LC, Isaacson O. [Related Articles](#), [Links](#)  
 Immunophilin ligands and GDNF enhance neurite branching or elongation from developing dopamine neurons in culture.  
*Exp Neurol.* 2000 Jul;164(1):60-70.  
 PMID: 10877916 [PubMed - indexed for MEDLINE]
- 28: Li ST, Kato K, Mikoshiba K. [Related Articles](#), [Links](#)  
 High Ca(2+)/low Mg(2+) solution induces long-term depression in rat CA1 pyramidal neurons.  
*Neurosci Lett.* 2000 Apr 7;283(2):141-4.  
 PMID: 10739895 [PubMed - indexed for MEDLINE]
- 29: Casadio A, Martin KC, Giustetto M, Zhu H, Chen M, Bartsch D, Bailey CH, Kandel ER. [Related Articles](#), [Links](#)  
 A transient, neuron-wide form of CREB-mediated long-term facilitation can be stabilized at specific synapses by local protein synthesis.  
*Cell.* 1999 Oct 15;99(2):221-37.  
 PMID: 10535740 [PubMed - indexed for MEDLINE]
- 30: Alexanian AR, Barnburg JR. [Related Articles](#), [Links](#)  
 Neuronal survival activity of s100betabeta is enhanced by calcineurin inhibitors and requires activation of NF-kappaB.  
*FASEB J.* 1999 Sep;13(12):1611-20.  
 PMID: 10463953 [PubMed - indexed for MEDLINE]
- 31: Williams EJ, Doherty P. [Related Articles](#), [Links](#)  
 Evidence for and against a pivotal role of PI 3-kinase in a neuronal cell survival pathway.  
*Mol Cell Neurosci.* 1999 Apr;13(4):272-80. Erratum in: *Mol Cell Neurosci* 2000 Mar;15(3):330.  
 PMID: 10328886 [PubMed - indexed for MEDLINE]
- 32: Allen MP, Zeng C, Schneider K, Xiong X, Meintzer MK, Bellosta P, Basilico C, Varnum B, Heidenreich KA, Wierman ME. [Related Articles](#), [Links](#)  
 Growth arrest-specific gene 6 (Gas6)/adhesion related kinase (Ark) signaling promotes gonadotropin-releasing hormone neuronal survival via extracellular signal-regulated kinase (ERK) and Akt.  
*Mol Endocrinol.* 1999 Feb;13(2):191-201.  
 PMID: 9973250 [PubMed - indexed for MEDLINE]
- 33: Bartlett SE, Reynolds AJ, Hendry IA. [Related Articles](#), [Links](#)  
 Retrograde axonal transport of neurotrophins: differences between neuronal populations and implications for motor neuron disease.  
*Immunol Cell Biol.* 1998 Oct;76(5):419-23. Review.  
 PMID: 9797461 [PubMed - indexed for MEDLINE]
- 34: Ding JM, Buchanan GF, Tischkau SA, Chen D, Kuriashkina L, Faiman LE, Alster JM, McPherson PS, Campbell KP, Gillette MU. [Related Articles](#), [Links](#)  
 A neuronal ryanodine receptor mediates light-induced phase delays of the circadian clock.  
*Nature.* 1998 Jul 23;394(6691):381-4.  
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- 35: Burnett PE, Blackshaw S, Lai MM, Qureshi IA, Burnett AF, Sabatini DM, Snyder SH. [Related Articles](#), [Links](#)  
 Neurabin is a synaptic protein linking p70 S6 kinase and the neuronal cytoskeleton.  
*Proc Natl Acad Sci U S A.* 1998 Jul 7;95(14):8351-6.  
 PMID: 9653190 [PubMed - indexed for MEDLINE]

- 36: [Terashima A, Nakai M, Hashimoto T, Kawamata T, Taniguchi T](#). Related Articles, Links  
[Yasuda M, Maeda K, Tanaka C](#).
- Single-channel activity of the Ca<sup>2+</sup>-dependent K<sup>+</sup> channel is modulated by FK506 and rapamycin.  
*Brain Res.* 1998 Mar 9;786(1-2):255-8.  
 PMID: 9555045 [PubMed - indexed for MEDLINE]
- 37: [Kikuchi M, Kashii S, Mandai M, Yasuyoshi H, Honda Y, Kaneda](#). Related Articles, Links  
[K, Akaike A](#).
- Protective effects of FK506 against glutamate-induced neurotoxicity in retinal cell culture.  
*Invest Ophthalmol Vis Sci.* 1998 Jun;39(7):1227-32.  
 PMID: 9620083 [PubMed - indexed for MEDLINE]
- 38: [Carreau A, Gueugnon J, Benavides J, Vige X](#). Related Articles, Links  
 Comparative effects of FK-506, rapamycin and cyclosporin A, on the in vitro differentiation of dorsal root ganglia explants and septal cholinergic neurons.  
*Neuropharmacology.* 1997 Nov-Dec;36(11-12):1755-62.  
 PMID: 9517448 [PubMed - indexed for MEDLINE]
- 39: [Yanow SK, Manseau F, Hislop J, Castellucci VF, Sossin WS](#). Related Articles, Links  
 Biochemical pathways by which serotonin regulates translation in the nervous system of Aplysia.  
*J Neurochem.* 1998 Feb;70(2):572-83.  
 PMID: 9453551 [PubMed - indexed for MEDLINE]
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 Attenuation of paired-pulse facilitation associated with synaptic potentiation mediated by postsynaptic mechanisms.  
*J Neurophysiol.* 1997 Nov;78(5):2707-16.  
 PMID: 9356420 [PubMed - indexed for MEDLINE]
- 41: [Mark MD, Storm DR](#). Related Articles, Links  
 Coupling of epidermal growth factor (EGF) with the antiproliferative activity of cAMP induces neuronal differentiation.  
*J Biol Chem.* 1997 Jul 4;272(27):17238-44.  
 PMID: 9202048 [PubMed - indexed for MEDLINE]
- 42: [Gunn-Moore FJ, Williams AG, Toms NJ, Tavare JM](#). Related Articles, Links  
 Activation of mitogen-activated protein kinase and p70S6 kinase is not correlated with cerebellar granule cell survival.  
*Biochem J.* 1997 Jun 1;324 ( Pt 2):365-9.  
 PMID: 9182692 [PubMed - indexed for MEDLINE]
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 Neurotrophic actions of nonimmunosuppressive analogues of immunosuppressive drugs FK506, rapamycin and cyclosporin A.  
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 PMID: 9095176 [PubMed - indexed for MEDLINE]
- 44: [Lois AF, Cooper LT, Geng Y, Nobori T, Carson D](#). Related Articles, Links  
 Expression of the p16 and p15 cyclin-dependent kinase inhibitors in lymphocyte activation and neuronal differentiation.  
*Cancer Res.* 1995 Sep 15;55(18):4010-3.  
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 Asymmetric retraction of growth cone filopodia following focal inactivation of calcineurin.  
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PMID: 7544801 [PubMed - indexed for MEDLINE]
- 48: Lyons WE, George EB, Dawson TM, Steiner JP, Snyder SH. [Related Articles](#), [Links](#)  
 Immunosuppressant FK506 promotes neurite outgrowth in cultures of PC12 cells and sensory ganglia.  
Proc Natl Acad Sci U S A. 1994 Apr 12;91(8):3191-5.  
PMID: 7512727 [PubMed - indexed for MEDLINE]
- 49: Dawson TM, Steiner JP, Dawson VL, Dinerman JL, Uhl GR, Snyder SH. [Related Articles](#), [Links](#)  
 Immunosuppressant FK506 enhances phosphorylation of nitric oxide synthase and protects against glutamate neurotoxicity.  
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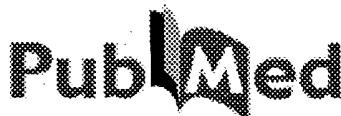
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**Steiner JP, Connolly MA, Valentine HL, Hamilton GS, Dawson TM, Hester L, Snyder SH.**

Department of Neurobiological Research, Guilford Pharmaceuticals Inc., Baltimore, Maryland 21224, USA.

We show that the nonimmunosuppressive analogues of the immunosuppressive drugs FK506, rapamycin and cyclosporin A promote neurite outgrowth both in PC12 cells and sensory neuronal cultures of dorsal root ganglia with potencies resembling their immunosuppressive homologues. Neurotrophic potencies of the immunophilin ligands resemble their potencies in binding to and inhibiting the rotamase activity of FKBP-12 of cyclophilin. Since nonimmunosuppressive immunophilin ligands, which are devoid of calcineurin inhibitory activity, are equally neurotrophic, inhibition of calcineurin activity is not the mediator of the neurotrophic effects. The immunophilin ligands are neurotrophic in intact animals. FK506 and L-685,818 (the C18-hydroxy, C21-ethyl derivative of FK506) treatment of rats with crushed sciatic nerves enhances both functional and morphologic recovery. The striking potency of these agents, their bioavailability and the dissociation of neurotrophic from immunosuppressant actions argue for their therapeutic relevance in the treatment of neurodegenerative diseases.

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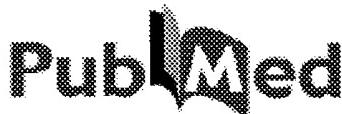
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PMID: 12443975 [PubMed - indexed for MEDLINE]
- 5: [Guérmonprez L, O'Regan S, Meunier FM, Morot-Gaudry-Talarmain Y.](#)
- The neuronal choline transporter CHT1 is regulated by immunosuppressor-sensitive pathways.  
J Neurochem. 2002 Aug;82(4):874-84.  
PMID: 12358793 [PubMed - indexed for MEDLINE]
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Biochem J. 2002 Jan 15;361(Pt 2):401-7.  
PMID: 11772413 [PubMed - indexed for MEDLINE]
- 7: [Zhang W, Victor RG.](#)
- Calcineurin inhibitors cause renal afferent activation in rats: a novel mechanism of cyclosporine-induced hypertension.  
Am J Hypertens. 2000 Sep;13(9):999-1004.  
PMID: 10981550 [PubMed - indexed for MEDLINE]
- 8: [Terashima A, Taniguchi T, Nakai M, Yasuda M, Kawamoto T, Tanaka C.](#)
- Rapamycin and FK506 induce long-term potentiation by pairing stimulation via an intracellular Ca(2+) signaling mechanism in rat hippocampal CA1 neurons.

Neuropharmacology. 2000 Jul;24(39)(10):1920-8.  
PMID: 10884573 [PubMed - indexed for MEDLINE]

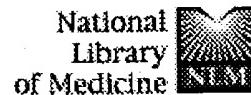
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 PMID: 10884572 [PubMed - indexed for MEDLINE]
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**Discordant effects of rapamycin on proliferation and p70S6 kinase phosphorylation in normal and neoplastic rat chromaffin cells.**  
*Neurosci Lett. 1999 Jan 15;259(3):137-40.*  
 PMID: 10025577 [PubMed - indexed for MEDLINE]
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 PMID: 9653190 [PubMed - indexed for MEDLINE]
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 PMID: 9396011 [PubMed - indexed for MEDLINE]
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- 21: Lyson T, Ermel LD, Belshaw PJ, Alberg DG, Schreiber SL, Victor RG. Related Articles, Links  
Cyclosporine- and FK506-induced sympathetic activation correlates with calcineurin-mediated inhibition of T-cell signaling.  
Circ Res. 1993 Sep;73(3):596-602.  
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*Am J Hypertens.* 2000 Sep;13(9):999-1004.  
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- 23:** Terashima A, Taniguchi T, Nakai M, Yasuda M, Kawamoto T, Tanaka C. [Related Articles](#), [Links](#)  
 Rapamycin and FK506 induce long-term potentiation by pairing stimulation via an intracellular Ca(2+) signaling mechanism in rat hippocampal CA1 neurons.  
*Neuropharmacology.* 2000 Jul 24;39(10):1920-8.  
 PMID: 10884573 [PubMed - indexed for MEDLINE]
- 24:** Parker EM, Motopoli A, Ongini E, Lezza G, Babij CM. [Related Articles](#), [Links](#)  
 Rapamycin, but not FK506 and GPI-1046, increases neurite outgrowth in PC12 cells by inhibiting cell cycle progression.  
*Neuropharmacology.* 2000 Jul 24;39(10):1913-9.  
 PMID: 10884572 [PubMed - indexed for MEDLINE]
- 25:** Costantini LC, Isaacson O. [Related Articles](#), [Links](#)  
 Immunophilin ligands and GDNF enhance neurite branching or elongation from developing dopamine neurons in culture.  
*Exp Neurol.* 2000 Jul;164(1):60-70.  
 PMID: 10877916 [PubMed - indexed for MEDLINE]
- 26:** Li ST, Kato K, Mikoshiba K. [Related Articles](#), [Links](#)  
 High Ca(2+)/low Mg(2+) solution induces long-term depression in rat CA1 pyramidal neurons.  
*Neurosci Lett.* 2000 Apr 7;283(2):141-4.  
 PMID: 10739895 [PubMed - indexed for MEDLINE]

- 27:** [Alexanian AR, Bamburg JR.](#) [Related Articles](#), [Links](#)  
 Neuronal survival activity of s100betabeta is enhanced by calcineurin inhibitors and requires activation of NF-kappaB.  
*FASEB J.* 1999 Sep;13(12):1611-20.  
 PMID: 10463953 [PubMed - indexed for MEDLINE]
- 28:** [Williams EJ, Doherty P.](#) [Related Articles](#), [Links](#)  
 Evidence for and against a pivotal role of PI 3-kinase in a neuronal cell survival pathway.  
*Mol Cell Neurosci.* 1999 Apr;13(4):272-80. Erratum in: *Mol Cell Neurosci* 2000 Mar;15(3):330.  
 PMID: 10328886 [PubMed - indexed for MEDLINE]
- 29:** [Minshall C, Arkins S, Dantzer R, Freund GG, Kelley KW.](#) [Related Articles](#), [Links](#)  
 Phosphatidylinositol 3'-kinase, but not S6-kinase, is required for insulin-like growth factor-I and IL-4 to maintain expression of Bcl-2 and promote survival of myeloid progenitors.  
*J Immunol.* 1999 Apr 15;162(8):4542-9.  
 PMID: 10201993 [PubMed - indexed for MEDLINE]
- 30:** [Powers JF, Tischler AS, Cherington V.](#) [Related Articles](#), [Links](#)  
 Discordant effects of rapamycin on proliferation and p70S6 kinase phosphorylation in normal and neoplastic rat chromaffin cells.  
*Neurosci Lett.* 1999 Jan 15;259(3):137-40.  
 PMID: 10025577 [PubMed - indexed for MEDLINE]
- 31:** [Allen MP, Zeng C, Schneider K, Xiong X, Meintzer MK, Bellosta P, Basilico C, Varnum B, Heidenreich KA, Wiernan ME.](#) [Related Articles](#), [Links](#)  
 Growth arrest-specific gene 6 (Gas6)/adhesion related kinase (Ark) signaling promotes gonadotropin-releasing hormone neuronal survival via extracellular signal-regulated kinase (ERK) and Akt.  
*Mol Endocrinol.* 1999 Feb;13(2):191-201.  
 PMID: 9973250 [PubMed - indexed for MEDLINE]
- 32:** [Magun R, Gagnon A, Yaraghi Z, Sorisky A.](#) [Related Articles](#), [Links](#)  
 Expression and regulation of neuronal apoptosis inhibitory protein during adipocyte differentiation.  
*Diabetes.* 1998 Dec;47(12):1948-52.  
 PMID: 9836529 [PubMed - indexed for MEDLINE]
- 33:** [Bartlett SE, Reynolds AJ, Hendry JA.](#) [Related Articles](#), [Links](#)  
 Retrograde axonal transport of neurotrophins: differences between neuronal populations and implications for motor neuron disease.  
*Immunol Cell Biol.* 1998 Oct;76(5):419-23. Review.  
 PMID: 9797461 [PubMed - indexed for MEDLINE]
- 34:** [Polakiewicz RD, Schieferl SM, Gingras AC, Sonnenberg N, Comb MJ.](#) [Related Articles](#), [Links](#)  
 mu-Opioid receptor activates signaling pathways implicated in cell survival and translational control.  
*J Biol Chem.* 1998 Sep 4;273(36):23534-41.  
 PMID: 9722592 [PubMed - indexed for MEDLINE]
- 35:** [Ding JM, Buchanan GF, Tischkau SA, Chen D, Kuriashkina L, Faiman LE, Alster JM, McPherson PS, Campbell KP, Gillette MU.](#) [Related Articles](#), [Links](#)  
 A neuronal ryanodine receptor mediates light-induced phase delays of the circadian clock.  
*Nature.* 1998 Jul 23;394(6691):381-4.

PMID: 9690474 [PubMed - indexed for MEDLINE]

- 36: [Reynolds AJ, Bartlett SE, Hendry IA.](#) [Related Articles](#), [Links](#)  
 Signalling events regulating the retrograde axonal transport of 125I-beta nerve growth factor in vivo.  
*Brain Res.* 1998 Jul 6;798(1-2):67-74.  
 PMID: 9666080 [PubMed - indexed for MEDLINE]
- 37: [Burnett PE, Blackshaw S, Lai MM, Qureshi IA, Burnett AF, Sabatini DM, Snyder SH.](#) [Related Articles](#), [Links](#)  
 Neurabin is a synaptic protein linking p70 S6 kinase and the neuronal cytoskeleton.  
*Proc Natl Acad Sci U S A.* 1998 Jul 7;95(14):8351-6.  
 PMID: 9653190 [PubMed - indexed for MEDLINE]
- 38: [Yanow SK, Manseau F, Hislop J, Castellucci VF, Sossin WS.](#) [Related Articles](#), [Links](#)  
 Biochemical pathways by which serotonin regulates translation in the nervous system of Aplysia.  
*J Neurochem.* 1998 Feb;70(2):572-83.  
 PMID: 9453551 [PubMed - indexed for MEDLINE]
- 39: [Sabatini DM, Lai MM, Snyder SH.](#) [Related Articles](#), [Links](#)  
 Neural roles of immunophilins and their ligands.  
*Mol Neurobiol.* 1997 Oct;15(2):223-39. Review.  
 PMID: 9396011 [PubMed - indexed for MEDLINE]
- 40: [Mark MD, Storm DR.](#) [Related Articles](#), [Links](#)  
 Coupling of epidermal growth factor (EGF) with the antiproliferative activity of cAMP induces neuronal differentiation.  
*J Biol Chem.* 1997 Jul 4;272(27):17238-44.  
 PMID: 9202048 [PubMed - indexed for MEDLINE]
- 41: [Steiner JP, Connolly MA, Valentine HL, Hamilton GS, Dawson TM, Hester L, Snyder SH.](#) [Related Articles](#), [Links](#)  
 Neurotrophic actions of nonimmunosuppressive analogues of immunosuppressive drugs FK506, rapamycin and cyclosporin A.  
*Nat Med.* 1997 Apr;3(4):421-8.  
 PMID: 9095176 [PubMed - indexed for MEDLINE]
- 42: [Kauffmann-Zeh A, Rodriguez-Viciana P, Ulrich E, Gilbert C, Coffer P, Downward J, Evan G.](#) [Related Articles](#), [Links](#)  
 Suppression of c-Myc-induced apoptosis by Ras signalling through PI(3)K and PKB.  
*Nature.* 1997 Feb 6;385(6616):544-8.  
 PMID: 9020362 [PubMed - indexed for MEDLINE]
- 43: [Lois AF, Cooper LT, Geng Y, Nobori T, Carson D.](#) [Related Articles](#), [Links](#)  
 Expression of the p16 and p15 cyclin-dependent kinase inhibitors in lymphocyte activation and neuronal differentiation.  
*Cancer Res.* 1995 Sep 15;55(18):4010-3.  
 PMID: 7664273 [PubMed - indexed for MEDLINE]
- 44: [Chang HY, Takei K, Sydor AM, Born T, Rusnak F, Jay DG.](#) [Related Articles](#), [Links](#)  
 Asymmetric retraction of growth cone filopodia following focal inactivation of calcineurin.  
*Nature.* 1995 Aug 24;376(6542):686-90.  
 PMID: 7544441 [PubMed - indexed for MEDLINE]
- 45: [Victor RG, Thomas GD, Marban E, O'Rourke B.](#) [Related Articles](#), [Links](#)



Presynaptic modulation of cortical synaptic activity by calcineurin.

Proc Natl Acad Sci U S A. 1995 Jul 3;92(14):6269-73.

PMID: 7541535 [PubMed - indexed for MEDLINE]



46: Perrot-Applanat M, Cibert C, Geraud G, Renoir JM, Baulieu EE. Related Articles, Links



The 59 kDa FK506-binding protein, a 90 kDa heat shock protein binding immunophilin (FKBP59-HBI), is associated with the nucleus, the cytoskeleton and mitotic apparatus.

J Cell Sci. 1995 May;108 ( Pt 5):2037-51.

PMID: 7544801 [PubMed - indexed for MEDLINE]



47: Lyson T, Ermel LD, Belshaw PJ, Alberg DG, Schreiber SL, Victor RG. Related Articles, Links



Cyclosporine- and FK506-induced sympathetic activation correlates with calcineurin-mediated inhibition of T-cell signaling.

Circ Res. 1993 Sep;73(3):596-602.

PMID: 7688670 [PubMed - indexed for MEDLINE]

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 Int J Oncol. 2004 Apr;24(4):893-900.  
 PMID: 15010827 [PubMed - in process]
- 2:** Newton HB. Related Articles, Links  
**[** Molecular neuro-oncology and development of targeted therapeutic strategies for brain tumors.  
 Expert Rev Anticancer Ther. 2004 Feb;4(1):105-28.  
 PMID: 14748662 [PubMed - in process]
- 3:** Pong K, Zaleska MM. Related Articles, Links  
**[** Therapeutic implications for immunophilin ligands in the treatment of neurodegenerative diseases.  
 Curr Drug Target CNS Neurol Disord. 2003 Dec;2(6):349-56. Review.  
 PMID: 14683462 [PubMed - indexed for MEDLINE]
- 4:** Chow KM, Szeto CC. Related Articles, Links  
**[** Posterior leukoencephalopathy with cyclosporine.  
 Clin Nephrol. 2003 Oct;60(4):297-8; author reply 298. No abstract available.  
 PMID: 14579949 [PubMed - indexed for MEDLINE]
- 5:** Kwon CH, Zhu X, Zhang J, Baker SJ. Related Articles, Links  
**[** mTor is required for hypertrophy of Pten-deficient neuronal soma in vivo.  
 Proc Natl Acad Sci U S A. 2003 Oct 28;100(22):12923-8. Epub 2003 Oct 08.  
 PMID: 14534328 [PubMed - indexed for MEDLINE]
- 6:** Tischmeyer W, Schicknick H, Kraus M, Seidenbecher CI, Staak S, Scheich H, Gundelfinger ED. Related Articles, Links  
**[** Rapamycin-sensitive signalling in long-term consolidation of auditory cortex-dependent memory.  
 Eur J Neurosci. 2003 Aug;18(4):942-50.  
 PMID: 12925020 [PubMed - indexed for MEDLINE]
- 7:** Avramut M, Achim CL. Related Articles, Links  
**[** Immunophilins in nervous system degeneration and regeneration.  
 Curr Top Med Chem. 2003;3(12):1376-82. Review.  
 PMID: 12871169 [PubMed - indexed for MEDLINE]
- 8:** Choe G, Horvath S, Cloughesy TF, Crosby K, Seligson D, Palotie A, Inge L, Smith BL, Sawyers CL, Mischel PS. Related Articles, Links  
**[** Analysis of the phosphatidylinositol 3'-kinase signaling pathway in glioblastoma patients in vivo.  
 Cancer Res. 2003 Jun 1;63(11):2742-6.  
 PMID: 12782577 [PubMed - indexed for MEDLINE]

- [9: Afzali B, Goldsmith DJ.](#) [Related Articles](#), [Links](#)
- Successful retransplantation using rapamycin in a patient with previous calcineurin inhibitor-induced posterior leukoencephalopathy syndrome.  
Clin Nephrol. 2003 Mar;59(3):225-8.  
PMID: 12653269 [PubMed - indexed for MEDLINE]
- [10: Treska V, Hasman D, Reischig T, Certik B, Cechura M, Racek J, Trefil L, Hes O.](#) [Related Articles](#), [Links](#)
- First kidney transplantation from a non-heart-beating donor in the Czech Republic.  
Ann Transplant. 2002;7(2):45-9.  
PMID: 12416472 [PubMed - indexed for MEDLINE]
- [11: Haberman RP, McCown TJ.](#) [Related Articles](#), [Links](#)
- Regulation of gene expression in adeno-associated virus vectors in the brain.  
Methods. 2002 Oct;28(2):219-26. Review.  
PMID: 12413420 [PubMed - indexed for MEDLINE]
- [12: Kenerson HL, Aicher LD, True LD, Yeung RS.](#) [Related Articles](#), [Links](#)
- Activated mammalian target of rapamycin pathway in the pathogenesis of tuberous sclerosis complex renal tumors.  
Cancer Res. 2002 Oct 15;62(20):5645-50.  
PMID: 12384518 [PubMed - indexed for MEDLINE]
- [13: Cutts J, Lee G, Berarducci M, Thomas C, Dempsey PK, Kadish SP.](#) [Related Articles](#), [Links](#)
- Goosebumps.  
Lancet. 2002 Aug 31;360(9334):690. No abstract available.  
PMID: 12241877 [PubMed - indexed for MEDLINE]
- [14: Hamilton GS, Wu YQ, Limburg DC, Wilkinson DE, Vaal MJ, Li JH, Thomas C, Huang W, Sauer H, Ross DT, Soni R, Chen Y, Guo H, Howorth P, Valentine H, Liang S, Spicer D, Fuller M, Steiner JP.](#) [Related Articles](#), [Links](#)
- Synthesis of N-glyoxyl prolyl and pipecolyl amides and thioesters and evaluation of their in vitro and in vivo nerve regenerative effects.  
J Med Chem. 2002 Aug 1;45(16):3549-57.  
PMID: 12139466 [PubMed - indexed for MEDLINE]
- [15: Geoerger B, Kerr K, Tang CB, Fung KM, Powell B, Sutton LN, Phillips PC, Janss AJ.](#) [Related Articles](#), [Links](#)
- Antitumor activity of the rapamycin analog CCI-779 in human primitive neuroectodermal tumor/medulloblastoma models as single agent and in combination chemotherapy.  
Cancer Res. 2001 Feb 15;61(4):1527-32.  
PMID: 11245461 [PubMed - indexed for MEDLINE]
- [16: Parker EM, Monopoli A, Ongini E, Lozza G, Babij CM.](#) [Related Articles](#), [Links](#)
- Rapamycin, but not FK506 and GPI-1046, increases neurite outgrowth in PC12 cells by inhibiting cell cycle progression.  
Neuropharmacology. 2000 Jul 24;39(10):1913-9.  
PMID: 10884572 [PubMed - indexed for MEDLINE]
- [17: Serkova N, Litt L, James TL, Sadee W, Leibfritz D, Benet LZ, Christians U.](#) [Related Articles](#), [Links](#)
- Evaluation of individual and combined neurotoxicity of the immunosuppressants cyclosporine and sirolimus by in vitro multinuclear NMR spectroscopy.

J Pharmacol Exp Ther. 1999 May;289(2):800-6.  
PMID: 10215655 [PubMed - indexed for MEDLINE]

- 18:** Bochelen D, Rudin M, Sauter A. Related Articles, Links  
**Calcineurin inhibitors FK506 and SDZ ASM 981 alleviate the outcome of focal cerebral ischemic/reperfusion injury.**  
 J Pharmacol Exp Ther. 1999 Feb;288(2):653-9.  
 PMID: 9918571 [PubMed - indexed for MEDLINE]
- 19:** Sharif M. Related Articles, Links  
**Mitogenic signaling by substance P and bombesin-like neuropeptide receptors in astrocytic/glial brain tumor-derived cell lines.**  
 Int J Oncol. 1998 Feb;12(2):273-86. Review.  
 PMID: 9458349 [PubMed - indexed for MEDLINE]
- 20:** Sabatini DM, Lai MM, Snyder SH. Related Articles, Links  
**Neural roles of immunophilins and their ligands.**  
 Mol Neurobiol. 1997 Oct;15(2):223-39. Review.  
 PMID: 9396011 [PubMed - indexed for MEDLINE]
- 21:** Marks AR. Related Articles, Links  
**Intracellular calcium-release channels: regulators of cell life and death.**  
 Am J Physiol. 1997 Feb;272(2 Pt 2):H597-605. Review.  
 PMID: 9124414 [PubMed - indexed for MEDLINE]
- 22:** Sharkey J, Butcher SP. Related Articles, Links  
**Immunophilins mediate the neuroprotective effects of FK506 in focal cerebral ischaemia.**  
 Nature. 1994 Sep 22;371(6495):336-9.  
 PMID: 7522303 [PubMed - indexed for MEDLINE]
- 23:** Houchens DP, Ovejera AA, Riblet SM, Slagel DE. Related Articles, Links  
**Human brain tumor xenografts in nude mice as a chemotherapy model.**  
 Eur J Cancer Clin Oncol. 1983 Jun;19(6):799-805.  
 PMID: 6683650 [PubMed - indexed for MEDLINE]

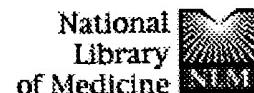
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Transplantation. 2003 Dec 15;76(11):1649-50. No abstract available. Erratum in: Transplantation. 2004 Jan 27;77(2):328.

PMID: 14702546 [PubMed - indexed for MEDLINE]

**3:** Desai NM, Goss JA, Deng S, Wolf BA, Markmann E, Palanjian M, Shock AP, Feliciano S, Brunicardi FC, Barker CF, Naji A, Markmann JF.

Elevated portal vein drug levels of sirolimus and tacrolimus in islet transplant recipients: local immunosuppression or islet toxicity?

Transplantation. 2003 Dec 15;76(11):1623-5.

PMID: 14702535 [PubMed - indexed for MEDLINE]

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J Immunol. 2003 Dec 15;171(12):6929-35.

PMID: 14662900 [PubMed - indexed for MEDLINE]

**6:** Bucher P, Mathe Z, Bosco D, Andres A, Buhler LH, Morel P, Berney T.

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Swiss Surg. 2003;9(5):242-6.

PMID: 14601328 [PubMed - indexed for MEDLINE]

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Transplantation. 2003 Oct 15;76(7):1133-4. No abstract available.

PMID: 14557767 [PubMed - indexed for MEDLINE]

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Wien Klin Wochenschr. 2003 Aug 14;115(13-14):485-504. Review.

PMID: 13677268 [PubMed - indexed for MEDLINE]

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Transplantation. 2003 Jul 15;76(1):55-60.

PMID: 12865786 [PubMed - indexed for MEDLINE]

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*Transplantation*. 2003 Jun 15;75(11):1812-9.  
PMID: 12811239 [PubMed - indexed for MEDLINE]

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*Transplantation*. 2003 May 27;75(10):1710-7.  
PMID: 12777861 [PubMed - indexed for MEDLINE]

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- Anti-third-party veto CTLs overcome rejection of hematopoietic allografts: synergism with rapamycin and BM cell dose.  
*Blood*. 2003 Sep 15;102(6):1943-50. Epub 2003 May 29.  
PMID: 12775573 [PubMed - indexed for MEDLINE]

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- Sirolimus and islet transplants.  
*Transplant Proc*. 2003 May;35(3 Suppl):187S-190S. Review. No abstract available.  
PMID: 12742495 [PubMed - indexed for MEDLINE]

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PMID: 12742479 [PubMed - indexed for MEDLINE]

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*Blood*. 2003 Sep 1;102(5):1601-5. Epub 2003 May 01.  
PMID: 12730113 [PubMed - indexed for MEDLINE]

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- A substantial level of donor hematopoietic chimerism is required to protect donor-specific islet grafts in diabetic NOD mice.  
*Transplantation*. 2003 Apr 15;75(7):909-15.  
PMID: 12698073 [PubMed - indexed for MEDLINE]

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*Pediatr Transplant*. 2003;7 Suppl 3:19-31. Review.  
PMID: 12603689 [PubMed - indexed for MEDLINE]

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- Prevention strategies for type 1 diabetes mellitus: current status and future directions.  
*BioDrugs*. 2003;17(1):39-64. Review.  
PMID: 12534319 [PubMed - indexed for MEDLINE]

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 Histopathological study of intrahepatic islets transplanted in the nonhuman primate model using edmonton protocol immunosuppression. J Clin Endocrinol Metab. 2002 Dec;87(12):5424-9.  
 PMID: 12466330 [PubMed - indexed for MEDLINE]
- 18: Blaha P, Bigenzahn S, Koporc Z, Schmid M, Langer F, Selzer E, Bergmeister H, Wyrba F, Kurtz J, Kiss C, Roth E, Muehlbacher F, Sykes M, Wekerle T. Related Articles, Links  
 The influence of immunosuppressive drugs on tolerance induction through bone marrow transplantation with costimulation blockade. Blood. 2003 Apr 1;101(7):2886-93. Epub 2002 Nov 14. Erratum in: Blood. 2003 Sep 15;102(6):1950.  
 PMID: 12433677 [PubMed - indexed for MEDLINE]
- 19: Taylor PA, Lees CJ, Wilson JM, Ehrhardt MJ, Campbell MT, Noelle RJ, Blazar BR. Related Articles, Links  
 Combined effects of calcineurin inhibitors or sirolimus with anti-CD40L mAb on alloengraftment under nonmyeloablative conditions. Blood. 2002 Nov 1;100(9):3400-7.  
 PMID: 12384443 [PubMed - indexed for MEDLINE]
- 20: Hale DA, Gottschalk R, Umemura A, Maki T, Monaco AP. Related Articles, Links  
 Immunologic mechanisms in tolerance produced in mice with nonradiation-based lymphoablation and donor-specific bone marrow. Transplantation. 2002 Aug 27;74(4):477-84.  
 PMID: 12352905 [PubMed - indexed for MEDLINE]
- 21: Wu T, Levay-Young B, Heuss N, Sozen H, Kirchhof N, Sutherland DE, Hering BJ, Guo Z. Related Articles, Links  
 Inducing tolerance to MHC-matched allogeneic islet grafts in diabetic NOD mice by simultaneous islet and bone marrow transplantation under nonirradiative and nonmyeloablative conditioning therapy. Transplantation. 2002 Jul 15;74(1):22-7.  
 PMID: 12134094 [PubMed - indexed for MEDLINE]
- 22: Goreczynski RM, Hu J, Chen Z, Kai Y, Lei J. Related Articles, Links  
 A CD200FC immunoadhesin prolongs rat islet xenograft survival in mice. Transplantation. 2002 Jun 27;73(12):1948-53.  
 PMID: 12131694 [PubMed - indexed for MEDLINE]
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 Rapamycin and T cell costimulatory blockade as post-transplant treatment promote fully MHC-mismatched allogeneic bone marrow engraftment under irradiation-free conditioning therapy. Bone Marrow Transplant. 2002 Jun;29(12):949-56.  
 PMID: 12098061 [PubMed - indexed for MEDLINE]
- 24: Hirshberg B, Montgomery S, Wysoki MG, Xu H, Tadaki D, Lee J, Hines K, Gaglia J, Patterson N, Leconte J, Hale D, Chang R, Kirk AD, Harlan DM. Related Articles, Links  
 Pancreatic islet transplantation using the nonhuman primate (rhesus) model predicts that the portal vein is superior to the celiac artery as the islet infusion site. Diabetes. 2002 Jul;51(7):2135-40.  
 PMID: 12086943 [PubMed - indexed for MEDLINE]
- 25: Shapiro AM, Suarez-Pinzon WL, Power R, Rabinovitch A. Related Articles, Links

- Combination therapy with low dose sirolimus and tacrolimus is synergistic in preventing spontaneous and recurrent autoimmune diabetes in non-obese diabetic mice.  
Diabetologia. 2002 Feb;45(2):224-30.  
PMID: 11935154 [PubMed - indexed for MEDLINE]
- 26: Jacobsohn DA, Vogelsang GB. Related Articles, Links
- Novel pharmacotherapeutic approaches to prevention and treatment of GVHD.  
Drugs. 2002;62(6):879-89. Review.  
PMID: 11929336 [PubMed - indexed for MEDLINE]
- 27: Rabinovitch A, Suarez-Pinzon WL, Shapiro AM, Rajotte RV, Power R. Related Articles, Links  
  
 Combination therapy with sirolimus and interleukin-2 prevents spontaneous and recurrent autoimmune diabetes in NOD mice.  
Diabetes. 2002 Mar;51(3):638-45.  
PMID: 11872661 [PubMed - indexed for MEDLINE]
- 28: Adams AB, Shirasugi N, Durham MM, Strobert E, Anderson D, Rees P, Cowan S, Xu H, Blinder Y, Cheung M, Hollenbaugh D, Kenyon NS, Pearson TC, Larsen CP. Related Articles, Links  
  
 Calcineurin inhibitor-free CD28 blockade-based protocol protects allogeneic islets in nonhuman primates.  
Diabetes. 2002 Feb;51(2):265-70.  
PMID: 11812731 [PubMed - indexed for MEDLINE]
- 29: Benhamou PY. Related Articles, Links  
  
 Immunomodulation with CTLA4-Ig in islet transplantation.  
Transplantation. 2002 Jan 15;73(1 Suppl):S40-2. Review.  
PMID: 11810061 [PubMed - indexed for MEDLINE]
- 30: Benito AJ, Furlong T, Martin PJ, Anasetti C, Appelbaum FR, Doney K, Nash RA, Papayannopoulou T, Storb R, Sullivan KM, Witherspoon R, Deeg HJ. Related Articles, Links  
  
 Sirolimus (rapamycin) for the treatment of steroid-refractory acute graft-versus-host disease.  
Transplantation. 2001 Dec 27;72(12):1924-9.  
PMID: 11773890 [PubMed - indexed for MEDLINE]
- 31: Simpson D. Related Articles, Links  
  
 New developments in the prophylaxis and treatment of graft versus host disease.  
Expert Opin Pharmacother. 2001 Jul;2(7):1109-17. Review.  
PMID: 11583062 [PubMed - indexed for MEDLINE]
- 32: Bayle F. Related Articles, Links  
  
 [Focus on Islets of Langerhans transplantation]  
Presse Med. 2001 Sep 1;30(24 Pt 2):19-20. French.  
PMID: 11577579 [PubMed - indexed for MEDLINE]
- 33: Goker H, Haznedaroglu IC, Chao NJ. Related Articles, Links  
  
 Acute graft-vs-host disease: pathobiology and management.  
Exp Hematol. 2001 Mar;29(3):259-77. Review. Erratum in: Exp Hematol 2001 May;29(5):653.  
PMID: 11274753 [PubMed - indexed for MEDLINE]
- 34: Shibata S, Matsumoto S, Sageshima J, Hiraoka K, Sutherland DE, Kirchhoff N, Guo Z, Koyama K, Gilmore TR, Dunning M, Ansiter JD, Shearer JD, Clemmings S, Hedlund BE, Sehgal SN, Hering BJ. Related Articles, Links

- Temporary treatment with sirolimus and low-dose cyclosporine prevents acute islet allograft rejection, and combination with starch-conjugated deferoxamine promotes islet engraftment in the preclinical pig model. *Transplant Proc.* 2001 Feb-Mar;33(1-2):509. No abstract available.  
PMID: 11266930 [PubMed - indexed for MEDLINE]
- 35:** Umemura A, Monaco AP, Maki T. Related Articles, Links
- Expression of MHC class II antigen is essential in tolerance induction by donor bone marrow cell in antilymphocyte serum-treated and rapamycin-treated mice. *Transplant Proc.* 2001 Feb-Mar;33(1-2):148. No abstract available.  
PMID: 11266751 [PubMed - indexed for MEDLINE]
- 36:** Monaco AP. Related Articles, Links
- Strategies for induction of clinical tolerance. *Transplant Proc.* 2001 Feb-Mar;33(1-2):51-6. No abstract available.  
PMID: 11266703 [PubMed - indexed for MEDLINE]
- 37:** Chen BJ, Morris RE, Chao NJ. Related Articles, Links
- Graft-versus-host disease prevention by rapamycin: cellular mechanisms. *Biol Blood Marrow Transplant.* 2000;6(5A):529-36.  
PMID: 11071258 [PubMed - indexed for MEDLINE]
- 38:** Umemura A, Monaco AP, Maki T. Related Articles, Links
- Donor T cells are not required for induction of allograft tolerance in mice treated with antilymphocyte serum, rapamycin, and donor bone marrow cells. *Transplantation.* 2000 Oct 15;70(7):1005-9.  
PMID: 11045634 [PubMed - indexed for MEDLINE]
- 39:** Robertson RP. Related Articles, Links
- Successful islet transplantation for patients with diabetes--fact or fantasy? *N Engl J Med.* 2000 Jul 27;343(4):289-90. No abstract available.  
PMID: 10911012 [PubMed - indexed for MEDLINE]
- 40:** Shapiro AM, Lakey JR, Ryan EA, Korbutt GS, Toth E, Warnock GL, Kneteman NM, Rajotte RV. Related Articles, Links
- Islet transplantation in seven patients with type 1 diabetes mellitus using a glucocorticoid-free immunosuppressive regimen. *N Engl J Med.* 2000 Jul 27;343(4):230-8.  
PMID: 10911004 [PubMed - indexed for MEDLINE]
- 41:** Simpson D. Related Articles, Links
- Drug therapy for acute graft-versus-host disease prophylaxis. *J Hematother Stem Cell Res.* 2000 Jun;9(3):317-25. Review.  
PMID: 10894353 [PubMed - indexed for MEDLINE]
- 42:** Hale DA, Gottschalk R, Umemura A, Maki T, Monaco AP. Related Articles, Links
- Establishment of stable multilineage hematopoietic chimerism and donor-specific tolerance without irradiation. *Transplantation.* 2000 Apr 15;69(7):1242-51.  
PMID: 10798737 [PubMed - indexed for MEDLINE]
- 43:** Umemura A, Monaco AP, Maki T. Related Articles, Links
- Donor MHC class II antigen is essential for induction of transplantation tolerance by bone marrow cells. *J Immunol.* 2000 May 1;164(9):4452-7.  
PMID: 10779744 [PubMed - indexed for MEDLINE]

- 44:** [Forre O, Haugen M, Hassfeld WG.](#) [Related Articles](#), [Links](#)  
 New treatment possibilities in rheumatoid arthritis.  
*Scand J Rheumatol.* 2000;29(2):73-84. Review.  
 PMID: 10777119 [PubMed - indexed for MEDLINE]
- 45:** [Wright DC, Deol HS, Tuch BE.](#) [Related Articles](#), [Links](#)  
 A comparison of the sensitivity of pig and human peripheral blood mononuclear cells to the antiproliferative effects of traditional and newer immunosuppressive agents.  
*Transpl Immunol.* 1999 Sep;7(3):141-7.  
 PMID: 10608297 [PubMed - indexed for MEDLINE]
- 46:** [Boyle MJ, Dumble LJ.](#) [Related Articles](#), [Links](#)  
 15AU81, a prostacyclin analog, enhances donor-specific hepatocytes to prolong the survival of rat heart but not small bowel allografts.  
*Cell Transplant.* 1999 Sep-Oct;8(5):543-8.  
 PMID: 10580348 [PubMed - indexed for MEDLINE]
- 47:** [Socie G, Thervet E.](#) [Related Articles](#), [Links](#)  
 [New immunosuppressive agents]  
*Pathol Biol (Paris).* 1999 Oct;47(8):827-35. Review. French.  
 PMID: 10573703 [PubMed - indexed for MEDLINE]
- 48:** [\[No authors listed\]](#) [Related Articles](#), [Links](#)  
 Sirolimus. AY 22989, NSC 226080, NSC 606698, rapamycin, Rapamune.  
*Drugs R D.* 1999 Jan;1(1):100-7. No abstract available.  
 PMID: 10566001 [PubMed - indexed for MEDLINE]
- 49:** [Brenner MK.](#) [Related Articles](#), [Links](#)  
 "The end of the beginning": molecular and cellular biology of gene therapy keystone. 14-20 January 1999.  
*Biochim Biophys Acta.* 1999 Jul 29;1424(1):R5-9. No abstract available.  
 PMID: 10456031 [PubMed - indexed for MEDLINE]
- 50:** [Song Z, Wennberg L, Bennet W, Sundberg B, Groth CG, Korsgren O.](#) [Related Articles](#), [Links](#)  
 FK 506 prevents islet xenograft rejection: a study in the pig-to-rat model.  
*Transplant Proc.* 1999 Feb-Mar;31(1-2):981. No abstract available.  
 PMID: 10083437 [PubMed - indexed for MEDLINE]
- 51:** [Hale D, Gottschalk R, Maki T, Monaco AP.](#) [Related Articles](#), [Links](#)  
 Use of pharmacologic immunosuppression to augment the specific unresponsiveness (tolerance) to skin allografts induced by donor-specific bone marrow in antilymphocyte serum-treated mice: the unique effect of sirolimus.  
*Transplant Proc.* 1998 Aug;30(5):2432-4. Review.  
 PMID: 9723527 [PubMed - indexed for MEDLINE]
- 52:** [Li XC, Roy-Chaudhury P, Hancock WW, Manfrro R, Zand MS, Li Y, Zheng XX, Nickerson PW, Steiger J, Malek TR, Strom TB.](#) [Related Articles](#), [Links](#)  
 IL-2 and IL-4 double knockout mice reject islet allografts: a role for novel T cell growth factors in allograft rejection.  
*J Immunol.* 1998 Jul 15;161(2):890-6.  
 PMID: 9670967 [PubMed - indexed for MEDLINE]
- 53:** [Kronson JW, Hering BJ, Sutherland DE, Tanioka Y, Leone JP, Kirchhof N, Dahlman AP.](#) [Related Articles](#), [Links](#)  
 Posttransplant nonfunction of canine islets in PVG rats deficient in

- complement component C6.  
Transplantation. 1998 Jun 27;65(12):1549-54.  
PMID: 9665069 [PubMed - indexed for MEDLINE]
- 54: Boyle MJ, Baghdassarian V, Stepkowski SM, Dumble LJ, Kahan Related Articles, Links  
BD  
 Intrasplenic liver parenchymal cells in conjunction with low-dose rapamycin and cyclosporine induce a unique and specific prolongation of rat cardiac and small bowel allograft survival.  
Cell Transplant. 1998 May-Jun;7(3):247-56.  
PMID: 9647434 [PubMed - indexed for MEDLINE]
- 55: Luo H, Chen H, Qi S, Loh D, Dalozio P, Veillette A, Xu D, Wu J. Related Articles, Links  
 De novo-developed T cells have compromised response to existing alloantigens: using Ld-specific transgenic 2C T cells as tracers in a mouse heart transplantation model.  
J Immunol. 1998 Jul 1;161(1):73-82.  
PMID: 9647209 [PubMed - indexed for MEDLINE]
- 56: Blazar BR, Taylor PA, Panoskaltsis-Mortari A, Vallera DA. Related Articles, Links  
 Rapamycin inhibits the generation of graft-versus-host disease- and graft-versus-leukemia-causing T cells by interfering with the production of Th1 or Th1 cytotoxic cytokines.  
J Immunol. 1998 Jun 1;160(11):5355-65.  
PMID: 9605135 [PubMed - indexed for MEDLINE]
- 57: Hale DA, Gottschalk R, Maki T, Monaco AP. Related Articles, Links  
 Determination of an improved sirolimus (rapamycin)-based regimen for induction of allograft tolerance in mice treated with antilymphocyte serum and donor-specific bone marrow.  
Transplantation. 1998 Feb 27;65(4):473-9.  
PMID: 9500619 [PubMed - indexed for MEDLINE]
- 58: Hale DA, Gottschalk R, Maki T, Monaco AP. Related Articles, Links  
 Use of CTLA4-Ig in combination with conventional immunosuppressive agents to prolong allograft survival.  
Transplantation. 1997 Sep 27;64(6):897-900.  
PMID: 9326417 [PubMed - indexed for MEDLINE]
- 59: Wennberg L, Karlsson-Parra A, Sundberg B, Rafael E, Liu J, Zhu Related Articles, Links  
S, Groth CG, Korsgren O  
 Efficacy of immunosuppressive drugs in islet xenotransplantation: leflunomide in combination with cyclosporine and mycophenolate mofetil prevents islet xenograft rejection in the pig-to-rat model.  
Transplantation. 1997 May 15;63(9):1234-42.  
PMID: 9158015 [PubMed - indexed for MEDLINE]
- 60: Homma M, Damoiseaux JG, van Breda Vriesman PJ. Related Articles, Links  
 Differential effects of cyclosporin-A and rapamycin on in vivo thymocyte maturation.  
Transplant Proc. 1997 May;29(3):1743-4. No abstract available.  
PMID: 9142256 [PubMed - indexed for MEDLINE]
- 61: Hale DA, Gottschalk R, Fukuzaki T, Wood ML, Maki T, Monaco Related Articles, Links  
AP  
 Superiority of sirolimus (rapamycin) over cyclosporine in augmenting allograft and xenograft survival in mice treated with antilymphocyte serum and donor-specific bone marrow.

- Transplantation. 1997 Feb 15;63(3):359-64.  
PMID: 9039923 [PubMed - indexed for MEDLINE]
- 62:** Troppmann C, Papalois BE, Gruessner AC, Nakhleh RE, Gruessner RW. Related Articles, Links  
FK 506 versus cyclosporine A for steroid-free synergistic combination therapy with rapamycin in a discordant large animal donor xenoislet transplant model.  
Transplant Proc. 1997 Feb-Mar;29(1-2):914-5. No abstract available.  
PMID: 9123585 [PubMed - indexed for MEDLINE]
- 63:** Roy-Chaudhury P, Manfro RC, Steiger J, Nickerson PW, Tian Y, Zheng XX, Li YS, Strom TB. Related Articles, Links  
IL-2 and IL-4 double knock-out mice reject islet allografts: a role for novel T-cell growth factors?  
Transplant Proc. 1997 Feb-Mar;29(1-2):1083-4. No abstract available.  
PMID: 9123210 [PubMed - indexed for MEDLINE]
- 64:** Troppmann C, Gruessner AC, Papalois BE, Nakhleh RE, Gruessner RW. Related Articles, Links  
Discordant xenoislets from a large animal donor undergo accelerated graft failure rather than hyperacute rejection: impact of immunosuppression, islet mass, and transplant site on early outcome.  
Surgery. 1997 Feb;121(2):194-205.  
PMID: 9037232 [PubMed - indexed for MEDLINE]
- 65:** Hale DA, Gottschalk R, Fukuzaki T, Wood ML, Maki T, Monaco AP. Related Articles, Links  
Extended skin allo- and xenograft survival in mice treated with rapamycin, antilymphocyte serum, and donor-specific bone marrow transfusion.  
Transplant Proc. 1996 Dec;28(6):3269. No abstract available.  
PMID: 8962269 [PubMed - indexed for MEDLINE]
- 66:** Quesniaux V, Gibbons H, Maurer C, Stirnimann R, Wehrli S. Related Articles, Links  
Effects of rapamycin after syngeneic bone marrow transplantation in irradiated mice.  
Transplant Proc. 1996 Dec;28(6):3065-71. No abstract available.  
PMID: 8962188 [PubMed - indexed for MEDLINE]
- 67:** Rivera VM, Clackson T, Natesan S, Pollock R, Amara JE, Keenan T, Magari SR, Phillips T, Courage NL, Cerasoli F Jr, Holt DA, Gilman M. Related Articles, Links  
A humanized system for pharmacologic control of gene expression.  
Nat Med. 1996 Sep;2(9):1028-32.  
PMID: 8782462 [PubMed - indexed for MEDLINE]
- 68:** Sutherland DE. Related Articles, Links  
Pancreas and islet cell transplantation: now and then.  
Transplant Proc. 1996 Aug;28(4):2131-3. Review.  
PMID: 8769178 [PubMed - indexed for MEDLINE]
- 69:** De Fazio SR, Plowey JM, Hartner WC, Gozzo JJ. Related Articles, Links  
Late adjunctive therapy with single doses of rapamycin in skin-allografted mice treated with antilymphocyte serum and donor bone marrow cells.  
Transpl Immunol. 1996 Jun;4(2):105-12.  
PMID: 8843586 [PubMed - indexed for MEDLINE]
- 70:** Kneteman NM, Lakey JR, Wagner T, Finegood D. Related Articles, Links  
The metabolic impact of rapamycin (sirolimus) in chronic canine islet graft

- recipients.  
Transplantation. 1996 Apr 27;61(8):1206-10.  
PMID: 8610419 [PubMed - indexed for MEDLINE]
- 71: [Troppmann C, Papalois BE, Gruessner AC, Moon C, Matas AJ, Schgal SN, Nakhleh RE, Gruessner RW.](#) Related Articles, Links  
**Perioperative immunosuppression as a critical determinant of early outcome after discordant xenoislet transplantation: a comparative study.**  
Transplant Proc. 1996 Apr;28(2):981-3. No abstract available.  
PMID: 8623487 [PubMed - indexed for MEDLINE]
- 72: [Troppmann C, Papalois BE, Gruessner AC, Moon C, Matas AJ, Nakhleh RE, Gruessner RW.](#) Related Articles, Links  
**Impact of antipassenger lymphocyte globulin on functional graft survival of discordant xenoislet grafts from a large animal donor.**  
Transplant Proc. 1996 Apr;28(2):842-4. No abstract available.  
PMID: 8623429 [PubMed - indexed for MEDLINE]
- 73: [Wennberg L, Wallgren AC, Sundberg B, Rafael E, Zhu S, Liu J, Tibell A, Karlsson-Parra A, Groth CG, Korsgren O.](#) Related Articles, Links  
**Immunosuppression with leflunomide and cyclosporine prevents pig-to-rat islet xenograft rejection.**  
Transplant Proc. 1995 Dec;27(6):3314-5. No abstract available.  
PMID: 8539967 [PubMed - indexed for MEDLINE]
- 74: [Kneteman NM, Lakey JR, Wagner T, Finegood D.](#) Related Articles, Links  
**Beneficial metabolic impact of the novel immunosuppressant rapamycin in chronic canine islet autograft recipients.**  
Transplant Proc. 1995 Dec;27(6):3213. No abstract available.  
PMID: 8539919 [PubMed - indexed for MEDLINE]
- 75: [Vilquin JT, Asselin I, Guerette B, Kinoshita I, Roy R, Tremblay JP.](#) Related Articles, Links  
**Successful myoblast allotransplantation in mdx mice using rapamycin.**  
Transplantation. 1995 Feb 15;59(3):422-6. No abstract available.  
PMID: 7871574 [PubMed - indexed for MEDLINE]
- 76: [Gozzo JJ, Plowey J, Hartner WC, De Fazio SR.](#) Related Articles, Links  
**Importance of schedule of administration of adjunctive, short-term immunosuppression in ALS- and bone marrow cell-treated, skin-allografted mice.**  
Transplant Proc. 1995 Feb;27(1):169-70. No abstract available.  
PMID: 7878958 [PubMed - indexed for MEDLINE]
- 77: [Wennberg L, Wallgren AC, Karlsson-Parra A, Kozlowski T, Sundberg B, Tibell A, Groth CG, Korsgren O.](#) Related Articles, Links  
**Efficacy of various immunosuppressive drugs in preventing pig-to-rat islet xenograft rejection.**  
Transplant Proc. 1995 Feb;27(1):266-7. No abstract available.  
PMID: 7533391 [PubMed - indexed for MEDLINE]
- 78: [De Fazio SR, Plowey J, Hartner WC, Gozzo JJ.](#) Related Articles, Links  
**Effect of single-dose, late treatment with rapamycin on skin allograft survival in ALS- and donor bone marrow cell-treated mice.**  
Transplant Proc. 1994 Dec;26(6):3102-3. No abstract available.  
PMID: 7998084 [PubMed - indexed for MEDLINE]
- 79: [Lu X, Schuurman HJ, Borel JF.](#) Related Articles, Links  
**Effect of rapamycin on islet xenograft survival.**

Transplant Proc. 1994 Jun;26(3):1128-9. No abstract available.  
PMID: 8029857 [PubMed - indexed for MEDLINE]

- 80: [Blazar BR, Taylor PA, Sehgal SN, Vallera DA.](#) Related Articles, Links  
 Rapamycin, a potent inhibitor of T-cell function, prevents graft rejection in murine recipients of allogeneic T-cell-depleted donor marrow.  
*Blood.* 1994 Jan 15;83(2):600-9. Erratum in: *Blood* 1994 Jun 1;83(11):3424-5.  
 PMID: 8286755 [PubMed - indexed for MEDLINE]
- 81: [Yakimets WJ, Lakey JR, Yatscoff RW, Katyal D, Ao Z, Finegood DT, Rajotte RV, Kneteman NM.](#) Related Articles, Links  
 Prolongation of canine pancreatic islet allograft survival with combined rapamycin and cyclosporine therapy at low doses. Rapamycin efficacy is blood level related.  
*Transplantation.* 1993 Dec;56(6):1293-8.  
 PMID: 8278991 [PubMed - indexed for MEDLINE]
- 82: [Blazar BR, Taylor PA, Snover DC, Sehgal SN, Vallera DA.](#) Related Articles, Links  
 Murine recipients of fully mismatched donor marrow are protected from lethal graft-versus-host disease by the in vivo administration of rapamycin but develop an autoimmune-like syndrome.  
*J Immunol.* 1993 Nov 15;151(10):5726-41.  
 PMID: 8228258 [PubMed - indexed for MEDLINE]
- 83: [Fabian MC, Lakey JR, Rajotte RV, Kneteman NM.](#) Related Articles, Links  
 The efficacy and toxicity of rapamycin in murine islet transplantation. In vitro and in vivo studies.  
*Transplantation.* 1993 Nov;56(5):1137-42.  
 PMID: 8249114 [PubMed - indexed for MEDLINE]
- 84: [Bobbio SA, Porter JG, Monaco AP.](#) Related Articles, Links  
 Effect of rapamycin on islet and skin xenograft survival.  
*Transplant Proc.* 1993 Aug;25(4):2745-6. No abstract available.  
 PMID: 8356733 [PubMed - indexed for MEDLINE]
- 85: [Vogelsang GB, Hess AD.](#) Related Articles, Links  
 Rapamycin effects on immunologic reconstitution.  
*Transplant Proc.* 1993 Feb;25(1 Pt 1):727-8. No abstract available.  
 PMID: 8438459 [PubMed - indexed for MEDLINE]
- 86: [Bobbio SA, Wood ML, Monaco AP.](#) Related Articles, Links  
 Effect of rapamycin on induction of unresponsiveness in ALS-treated, marrow-injected mice.  
*Transplant Proc.* 1993 Feb;25(1 Pt 1):717-8. No abstract available.  
 PMID: 8438453 [PubMed - indexed for MEDLINE]
- 87: [Fabian MC, Lakey JR, Rajotte RV, Kneteman NM.](#) Related Articles, Links  
 Rapamycin prolongs murine islet allograft survival.  
*Transplant Proc.* 1992 Dec;24(6):2842. No abstract available.  
 PMID: 1465966 [PubMed - indexed for MEDLINE]
- 88: [Markus PM, Cai X, Selvaggi G, Cooper M, Harnaha J, Fung JJ, Starzl TE.](#) Related Articles, Links  
 The effect of cyclosporine, rapamycin and FK 506 on the survival following allogeneic bone marrow transplantation.  
*Transplant Proc.* 1991 Dec;23(6):3232-3. No abstract available.  
 PMID: 1721418 [PubMed - indexed for MEDLINE]

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